



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

cultural experiments and because of the detailed morphological and anatomical features of both symbionts. The fungus causes the conversion of starch into sugar by its diastase. Its function results from its enzymatic quality, which, with the solution of carbohydrates in the plant cell, induces the development of the seed, not by bringing soluble materials to the cell, but by transforming substances already there. BURGEFF suggests here the unproven fact of diffusion of the diastatic enzyme out of the fungal hypha through the *Plasmahaut* into the plant cell. This may also occur in the substratum from the emission hyphae. The osmotic relations arising from the sugar solutions could account for the absorption of water, but if nutritive salts are absorbed from the fungi from outside, a rapid change in permeability and adjustment of pressures at just the proper time to seize the salts brought by the fungus must take place.

On the whole, the relations between the plant and the mineral salts of the soil are of striking importance for the origin and maintenance of the orchid symbiosis. Although the structures show a gain in nitrogenous substances, the habitats of orchids, and cultural experiments exclude the possibility of free N-absorption. No anatomical features can prove the absorption of organic carbohydrates; although diastase and emulsin are common to all fungi, material for the action of the former is lacking in the soil, and we are in ignorance concerning the substance in the soil digested by the latter. Any substance taken up by the plant, either through its roots or by means of the fungus, must first be made soluble by the fungus itself, or by its exoenzymes in the substratum.—GRACE L. CLAPP.

MINOR NOTICES

Farm weeds.—The preparation of a scientific manual for the use of the ordinary layman is admittedly a difficult task, but it has been successfully accomplished by CLARK and FLETCHER,² whose volume upon farm weeds is the best that has yet appeared upon this subject. The remarkable simplicity without the sacrifice of scientific accuracy is due largely to the splendid ability of the late Dr. JAMES FLETCHER, who thus adds one of the latest of his many valuable contributions to botany and agriculture. More than 200 of the more troublesome weeds of Canada are arranged according to modern botanical classification, with very complete scientific and common synonyms, and briefly but accurately described in non-technical language. Special attention is directed to the characteristics which make the various plants troublesome as weeds, and careful directions are given for the most practicable and successful methods of control and extermination.

The most valuable aid to the recognition of different species is a series of 76 full-page plates, colored with the greatest accuracy. They include

² CLARK, GEORGE H., and FLETCHER, JAMES, *Farm weeds of Canada*. Second edition. 8vo. pp. 192. *pls.* 76. Ottawa: Department of Agriculture, Dominion of Canada. 1909. \$1.00 (single copies only, for sale by Superintendent of Stationery, Government Printing Bureau, Ottawa).

representatives, in natural size and also much enlarged, of the seeds of 100 of the most troublesome species. These illustrations are from the water-color sketches of NORMAN CRIDDLE, and will enable the farmer to identify readily most of his plant enemies, either while they are growing in the field or while polluting his seed grain.

The book is well printed and strongly bound, which, together with its other admirable qualities, makes it a valuable addition to the literature of economic botany.—GEO. D. FULLER.

A text-book of pharmacognosy.—A fourth edition of KRAEMER's *Text-book* has appeared.³ It is "intended for the use of students of pharmacy, as a reference book for pharmacists, and as a handbook for food and drug analysts." Such a statement indicates that the volume does not fall within the province of a botanist for review, and yet the material presented is of great interest to botanists. Part I (pp. 222) is entitled "Botany," and comprises a presentation of all the great groups, "outer morphology of angiosperms," "inner morphology of the higher plants," "classification of angiosperms yielding vegetable drugs," and "cultivation of medicinal plants." Of course this is botany for the pharmacist, and Dr. KRAEMER is in a position to know what the pharmacist needs. Only the first chapter, dealing with the great groups, really pertains to the non-pharmaceutical botanist. Perhaps it makes no difference to the students concerned, but the very antique flavor of the presentation of the great groups is somewhat surprising to the modern morphologist. Part II (pp. 383) is entitled "Pharmacognosy," and deals first with crude drugs, and then with powdered drugs and foods. Part III (pp. 88) is entitled "Reagents and technique"; and part IV (pp. 38) deals with "Micro-analysis."

The volume is certainly a thesaurus of information for the pharmacist, and doubtless will have great influence upon the progress of pharmacognosy in this country. There is abundant evidence, also, of an immense amount of painstaking labor on the part of the author, who is to be commended for his many years of faithful effort to organize and advance his subject.—J. M. C.

A naturalist in the Bahamas.—Under this title a memorial volume in honor of Dr. JOHN I. NORTHPROP has appeared.⁴ The botanical papers are as follows: "Flora of New Providence and Andros (Bahama Islands)," by ALICE R. NORTHPROP (reprinted from Mem. Torr. Bot. Club 12:no. 1. 1902); "Plant notes from Temiscouata County, Canada," by JOHN I. and ALICE R. NORTHPROP (reprinted from Bull. Torr. Bot. Club 17:1890); "Notes on the plant distribution of Mt. Washington, N.H.," by JOHN I. and ALICE R. NORTHPROP; and

³ KRAEMER, HENRY, A text-book of botany and pharmacognosy. pp. viii+888. Philadelphia and London: J. B. Lippincott Company. 1910. \$5.00.

⁴ A naturalist in the Bahamas. JOHN I. NORTHPROP. Oct. 12, 1861—June 25, 1891. A memorial volume edited with a biographical introduction by HENRY FAIRFIELD OSBORN. pp. 281. New York: The Columbia University Press. 1910. \$2.50.